

IN THE CLAIMS:

Claims 1-5 (canceled).

Claim 6 (withdrawn) A method for the identification of an animal from a biological sample comprising DNA of the animal, said method comprising the steps of:

- a) isolating and amplifying the DNA with the primer pair as claimed in claim 17 to form amplified products,
- b) sequencing the amplified products,
- c) blasting the sequence resolved in step (b) against a database and determining the most likely family of the animal source of the biological sample,
- d) blasting the sequence resolved in step (b) against a non-redundant (nr) database and determining the most likely genus, species or sub-species of the animal source of the biological sample,
- e) identifying the most significant alignment of the sequence resolved with cytochrome b gene sequence of the animal identified in steps (c) and (d) respectively and selection of these animals as ‘reference animals’ for further studies,
- f) isolating and amplifying and sequencing the DNA sequences from the reference animals on both strands in triplicate using the primer pair
- g) aligning the sequences obtained and identifying the variable sites amongst the animals analyzed.
- h) comparing the nucleotide sequences pair-wise to determine the variation among the

animals resolved and identifying the nucleotide sequence to which the DNA sequence of the biological sample bears maximum similarity as the source animal of the biological sample.

Claim 7 (cancelled)

Claim 8 (withdrawn) A method as claimed in claim 6 wherein the Amplification reactions should be carried out in 20  $\mu$ l reaction volume containing approximately 20  $\eta$ g of template DNA, 100  $\mu$ M each of dNTPs, 1.25 pmole of each primer, 1.5mM MgCl<sub>2</sub>, 0.5 unit of AmpliTaq Gold (Perkin-Elmer-Cetus, USA) DNA polymerase and 1X PCR buffer (10mM Tris-HCl, pH 8.3, and 50mM KC1). The amplification profiles followed should be: an initial denaturation at 95 °C for 45 s; annealing at 51 °C for 1 min, and extension at 72 °C for 2 min. The extension step at 35<sup>th</sup> cycles should be held for 10 min.

Claim 9. (withdrawn) A method as claimed in claim 6 wherein the method enables identification of species of analyzed material (i.e. the DNA isolated from confiscated animal remain of unknown origin) using the public databases such as GenBank, NCBI etc.

Claim 10 (withdrawn) A method as claimed in claim 6 wherein the method is used for animal identification to establish the crime with the criminal beyond a reasonably doubt.

Claim 11 (withdrawn) A method as claimed in claim 6 wherein the method is used to establish the identity of biological materials such as skin, horns, etc confiscated from animal poachers, if it

is that of an endangered species.

**Claim 12 (withdrawn)** A method as claimed in claim 6 wherein the method is used for establishment of the identity of confiscated animal parts and products of endangered animal species for the purpose of production of molecular evidence of animal hunting and related crime in the court of law, so that the human violation of the wildlife resources could be controlled.

**Claim 13 (withdrawn)** A method as claimed in claim 6 wherein the method is used to have an idea of the geographical location of the commitment of wildlife crime based on the cytochrome b gene haplotype of poached animal identified by the universal primer invented.

**Claim 14 (withdrawn)** A method as claimed in claim 6 wherein the method is used for animal identification to detect the adulteration of animal meat in food products for the purpose of food fortification, by the food fortification agencies.

**Claim 15 (withdrawn)** A method as claimed in claim 6 wherein the method is used to provide a universal technique for detection of the origin of blood or blood stains etc collected from the scene of crime related to offences such as murder, rape etc, in order to establish the origin of blood found at scene of crime when it sounds as if criminals have wontedly spread the blood of an animal at the scene of crime, to confuse the crime investigation agencies and forensic scientists with human blood.

Claim 16 (withdrawn/currently amended) A method as claimed in claim 6 wherein the method is used so that it can be converted to a (a) COMMERCIAL 'MOLECULAR MOLECUALR KIT' and (b) "DNA CHIPS" based applications for wildlife identification in forensics.

Claim 17 (currently amended) A universal primer pair for amplifying a fragment of cytochrome b gene of an animal species in a polymerase chain reaction (PCR) or determining the identity of the biological material of an animal of unknown origin at species and sub-species level, said primer pair consisting essentially of essentially comprising SEQ ID NO: 1 and SEQ ID NO: 2 and being capable of selectively amplifying a fragment of about 472 base pairs of a mitochondrial cytochrome b gene of any of at least 221 animal species, wherein the fragment being selectively amplified has a sequence that varies among each of the at least 221 animal species.

Claim 18 (currently amended) A reaction mixture comprising the primer pair of claim 17 + and a the fragment of a the mitochondrial cytochrome b gene flanked by sequences that are highly conserved amongst ~~a range of~~ the at least 221 animal species.

Claim 19 (previously persented) The reaction mixture as claimed in claim 18, wherein the fragment of mitochondrial cytochrome b gene is polymorphic inter-specifically but monomorphic at intra species sources.

Claim 20 (previously presented) The reaction mixture as claimed in claim 18, wherein the fragment comprises SEQ ID NO: 211.

Claim 21 (cancelled)

Claim 22 (currently amended) ~~The A universal primer pair for amplifying a fragment of cytochrome b gene of an animal species in a polymerase chain reaction (PCR) or determining the identity of the biological material of an animal of unknown origin at species and sub-species level, as claimed in claim 17~~, which consists of SEQ ID NO: 1 and SEQ ID NO: 2.

Claim 23 (currently amended) An isolated primer consisting ~~essentially~~ of SEQ ID NO: 1.

Claim 24 (cancelled)

Claim 25 (currently amended) An isolated primer consisting ~~essentially~~ of SEQ ID NO: 2.

Claim 26 (cancelled)